

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**



**FILED**

02-28-08  
04:59 PM

Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards Into Procurement Policies.

Rulemaking 06-04-009  
(Filed April 13, 2006)

**BEFORE THE CALIFORNIA ENERGY COMMISSION**

AB 32 Implementation.

Docket 07-0IIP-01

**RESPONSE OF THE INDEPENDENT ENERGY PRODUCERS  
ASSOCIATION TO THE PETITION OF SOUTHERN  
CALIFORNIA EDISON COMPANY FOR MODIFICATION OF  
DECISION 07-01-039**

INDEPENDENT ENERGY PRODUCERS  
ASSOCIATION  
Steven Kelly  
Policy Director  
1215 K Street, Suite 900  
Sacramento, CA 95814  
Telephone: (916) 448-9499  
Facsimile: (916) 448-0182  
Email: steven@iepa.com

GOODIN, MACBRIDE, SQUERI,  
DAY & LAMPREY, LLP  
Brian T. Cragg  
505 Sansome Street, Suite 900  
San Francisco, CA 94111  
Telephone: (415) 392-7900  
Facsimile: (415) 398-4321  
Email: bcragg@goodinmacbride.com

Attorneys for the Independent Energy Producers  
Association

Date: February 28, 2008

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emissions Standards Into Procurement Policies.

Rulemaking 06-04-009  
(Filed April 13, 2006)

**BEFORE THE CALIFORNIA ENERGY COMMISSION**

AB 32 Implementation.

Docket 07-0IIP-01

**RESPONSE OF THE INDEPENDENT ENERGY PRODUCERS  
ASSOCIATION TO THE PETITION OF SOUTHERN  
CALIFORNIA EDISON COMPANY FOR MODIFICATION OF  
DECISION 07-01-039**

Pursuant to Rule 16.4(f) of the Commission's Rules of Practice and Procedure, the Independent Energy Producers Association (IEP) is pleased to respond to the Petition for Modification of Decision (D.) 07-01-039 of Southern California Edison Company (SCE) dated January 28, 2008.<sup>1</sup>

In its Petition, SCE requests that the Commission modify D.07-01-039, the Emission Performance Standard (EPS) Decision, which limited the ability of load-serving

---

<sup>1</sup> By e-mail of February 20, 2008, Administrative Law Judge Amy Yip-Kikugawa confirmed that responses to SCE's petition are due on February 28, 2008.

entities (LSEs) to enter into long-term commitments with baseload facilities with high greenhouse gas (GHG) emissions. In that Decision, the Commission implemented Senate Bill (SB) 1368.<sup>2</sup> As enacted, SB 1368 intended to “prohibit any load serving entity . . . and any local publicly owned electric utility, from entering into a long-term financial commitment . . . unless any baseload generation . . . complies with a greenhouse gases emission performance standard.”<sup>3</sup>

SCE argues that because of its continued “legal obligations” regarding the Four Corners Generating Station, SCE’s share of expenditures for capital projects designed to extend the facility’s useful life do not fall under the category of “covered procurements” that are subject to the EPS, as set out by D.07-01-039.<sup>4</sup> In seeking a modification of D.07-01-039, SCE is in effect asking the Commission to override SCE’s *legal obligation* to comply with SB 1368 in favor of SCE’s interpretation of its *contractual obligations*. As discussed more fully below, SCE’s request is unwarranted.

Essentially, SCE presents three arguments in support of its Petition:<sup>5</sup>

1. The EPS Decision failed to address SCE’s stated concern that the EPS Decision’s specific language could be applied in a manner that would impair SCE’s ability to fulfill the financial obligations it had assumed when it executed various agreements that made SCE a co-owner of units 4 and 5 of Four Corners Generating Station.
2. Application of the EPS to Four Corners would harm SCE.

---

<sup>2</sup> Stats. 2006, ch. 598.

<sup>3</sup> SB 1368, preface, p. 2.

<sup>4</sup> Petition, p. 1.

<sup>5</sup> As the basis of its argument, SCE states: “As noted in the sections below, application of the EPS Decision to preclude SCE’s future investment in Four Corners will conflict with SCE’s contractual obligation to financially support Four Corners, contravenes the EPS Decision’s stated intention, and harm SCE and its ratepayers.” (Petition, p. 2.)

3. Application of the EPS to Four Corners would harm ratepayers.

In response, IEP urges the Commission to deny SCE's Petition for the following reasons:

- The Commission explicitly addressed SCE's concerns about additional investment in existing resources when it adopted D.07-01-039. Granting SCE's requested modifications would establish a damaging precedent as the Commission implements the state's GHG emission reduction strategy in coordination with the California Energy Commission (CEC) and the California Air Resources Board (CARB).
- SCE argues that application of the EPS to the Four Corners capital projects harms SCE separate from any potential harm to ratepayers. SCE provides no evidence for this in the Petition. Rather, the evidence presented in the Petition identifies only potential financial harm (i.e., potential cost liability). To the extent such harm occurs, this harm will affect ratepayers rather than SCE.
- SCE argues that application of the EPS harms its customers. However, SCE's argument fails to consider that application of the EPS in this case avoids significant GHG emission mitigation costs and potentially creates substantial benefits for ratepayers. The potential benefits to SCE's customers of avoiding these GHG emission mitigation costs are the underlying justification for applying the EPS to SCE's proposed investment in the Four Corners capital projects.

A more detailed explanation of IEP's points is provided in the following sections.

#### **I. THE EPS DECISION ADDRESSED SCE'S CONCERNS**

SCE argues that the EPS Decision failed to address SCE's stated concerns regarding its interest in the Four Corners Generating Station.<sup>6</sup> In fact, in the EPS Decision the Commission expressly addressed SCE's stated concerns, as follows:

---

<sup>6</sup> Petition, p. 2.

During the workshop process and in their comments, parties debated the issue of how the EPS should apply to existing facilities owned by the LSE and used to serve its load (referred to “retained generation”). Based on our reading of SB 1368, we find that the “new ownership investment” trigger for EPS compliance includes LSE investments in retained generation. Except for deemed-compliant CCGTs, we define that the trigger as any LSE investment that is intended to extend the life of one or more units of an existing baseload powerplant for five years or more, or results in a net increase in the existing rated capacity of the powerplant.<sup>7</sup>

For further clarity, the EPS Decision provided the following:

In sum, the interim EPS will apply to the following long-term financial commitments made by an LSE to baseload generation (“covered procurements”):

(1) New ownership investments in baseload generation made by an LSE, defined as ...

\* \* \*

(c) New investments in the LSE’s own existing, non-CCGT baseload powerplants that 1) are designed and intended to extend the life of one or more units by five years or more, 2) result in a net increase in the rated capacity of the powerplant, or 3) are designed and intended to convert a non-baseload plant to a baseload plant....

\* \* \*

(2) New contract commitments (including renewable contracts) of five years or greater with an LSE with:

(a) Baseload generation facilities, unless those facilities represent deemed-compliant CCGT powerplants....<sup>8</sup>

Finally, the EPS Decision states,

Based on the definition of “powerplant” adopted in this decision, the EPS will generally be applied to each individual generating unit supplying power under the covered procurements listed above.<sup>9</sup>

D.07-01-039 clearly includes as “covered procurement” any LSE investment that

---

<sup>7</sup> EPS Decision, p. 5, emphasis added.

<sup>8</sup> EPS Decision, p. 7.

<sup>9</sup> Decision, p. 8.

is intended to extend the life of one or more units of an existing baseload powerplant for five years or more. The Four Corners improvements that are behind SCE's request are exactly the types of investments or improvements addressed in the EPS Decision. SCE's proposed investment in the Four Corners Generating Station is designed to "help ensure that Four Corners retains some residual value **if** SCE ultimately divests its share of the power plant when the Agreements' current term expires in 2016."<sup>10</sup> In other words, these investments are being made to extend the life of Four Corners beyond five years, *i.e.*, for use through 2016 by SCE and for use beyond 2016 by SCE or its successor.

Further evidence of the long-term nature of the investments may be found in SCE's Exhibit C. The investments are specifically designed to replace old equipment with new equipment with a useful life of more than five years. For example, the Four Corners capital projects include the following pieces of equipment that have been in use for 35-40 years: (a) High Pressure Turbine Replacement (installed in 1960s); (b) Horizontal Reheat Bank Replacement Unit 5 (installed in 1970); (c) First Stage Pendant Superheater Replacement Unit 5 (installed in 1970); (d) GSU Transformer T634 Replacement Unit 5 (installed in 1968).<sup>11</sup> Replacing this equipment with new components of similar useful lives will extend the life of Four Corners, a baseload facility, beyond five years.

In addition, the long-term investment required for the capital projects will result in an increase in the output of the facility over what would occur without the new investment. As noted by SCE, "After the pulverizer upgrades, unit load will only have to be reduced by 25 MW to 50 MW (*i.e.*, an improvement of 50 MW)."<sup>12</sup>

---

<sup>10</sup> Petition, p. 4, emphasis added.

<sup>11</sup> See Petition, Exhibit C, p. 14 *et seq.*

<sup>12</sup> Petition, Exhibit C, p. 33.

While SCE alleges that the EPS Decision failed to consider the circumstances of this type of investment, the EPS Decision included specific language addressing long-term investments in utility-owned and utility-contracted arrangements, particularly where the investment would either (a) prolong the useful life of the facility, as is the case with Four Corners, or (b) increase the output of the facility, as is also the case with Four Corners. Thus, the EPS clearly applies to the type of investment in the Four Corners Units 4 and 5 sought by SCE.

## **II. APPLICATION OF THE EPS TO FOUR CORNERS WOULD NOT HARM SCE**

SCE alleges that the application of the EPS to the Four Corners Generating Station would harm SCE (separate from ratepayers). Specifically, SCE argues (a) that application of the EPS would “impair SCE’s ability to fulfill the financial obligations it had undertaken when it executed various agreements which made SCE a co-owner of units 4 and 5 of Four Corners Generating Station,”<sup>13</sup> and (b) “SCE would be liable for all the costs it would have been required to fund, in addition to other default related costs and expenses involved in operating Four Corners during the period of SCE’s default.”<sup>14</sup>

Regarding the allegation of contract impairment, the Co-Tenancy Agreement specifies what is to occur if a Participant fails to fulfill its financial obligations. Specifically, the Agreement requires a reassignment of rights and obligations among the Participants so as to minimize the potential for disputes and mitigate the potential for contractual failure.<sup>15</sup> The contract terms continue in effect in recognition of the reassignment with SCE’s Participant status and other rights unimpaired.

Regarding the issue of cost liability, the only harm that SCE has identified is its

---

<sup>13</sup> Petition, p. 2.

<sup>14</sup> Petition, p. 3.

<sup>15</sup> Petition, Exhibit B, Section 20.5.

liability for the reallocated costs of operating the plant (*e.g.*, O&M, fuel, etc.) plus the cost of replacement generation as provided in the Co-Tenancy Agreement. SCE, however, is not proposing in its Petition that SCE shareholders should bear these costs; rather, the harm, to the extent that it occurs, falls to ratepayers, not SCE.

### **III. APPLICATION OF THE EPS TO FOUR CORNERS WILL NOT HARM RATEPAYERS**

SCE alleges that the application of the EPS to Four Corners would harm ratepayers. Specifically, SCE argues that it would cost SCE's customers \$189 million in incremental replacement energy costs on an annual basis, assuming a 75% capacity factor. In addition, SCE alleges that the replacement Resource Adequacy capacity costs equate to an additional \$29 million.<sup>16</sup>

In reality, SCE customers may significantly benefit from the elimination from SCE's portfolio of 720 MW of a resource that does not meet the EPS.

- First, SCE's customers would save the \$178.5 million that SCE proposes to invest in new equipment for Four Corners Units 4 and 5.
- Second, if SCE does not have to bear the costs of mitigating the carbon emissions from Four Corners Units 4 and 5, SCE ratepayers may realize substantial savings. Under the terms of the Co-Tenancy Agreement, if SCE fails to fulfill its financial commitments, then SCE's Participant's share is reassigned. Accordingly, SCE's ratepayers would not have to bear the cost of mitigating the GHG emissions associated with the units. Assuming imposition of an allowance-based, Cap and Trade program imposed on "deliverers" of power into the California grid (as recommended in the Proposed Decision currently before the Commission), SCE's customers would save an estimated \$155 million - \$181 million annually between

---

<sup>16</sup> Petition, p. 9.

2012 (initiation of the CARB GHG emissions reduction program) and 2016 (expiration of SCE's current Agreements regarding Four Corners) by eliminating the 720 MW of coal-fired production from SCE's generation portfolio. The total savings to ratepayers during the 2012-2016 period equates to over \$841 million, assuming a relatively modest GHG allowance cost of \$36 per tonne (metric ton). See Attachment A for a detailed breakout of assumed costs.

Between the savings from deferring the original investment in capital programs to maintain the Four Corners facility and the savings from not having to purchase GHG allowances to mitigate Four Corners' coal-based output, ratepayers may at worst be neutral and, assuming the higher carbon costs many analysts predict, they could reap significant savings by not reinvesting in Four Corners.

#### **IV. CONCLUSION**

SCE seeks to eliminate the application of the EPS to its own coal-based generation and to reverse the Commission's implementation of SB 1368 in spite of the clear language in the EPS Decision that subjects this type of facility to the EPS. SCE argues that the EPS Decision failed to address its stated concerns related to the type of ownership exhibited in the Four Corners case. On the contrary, the Decision was quite clear on its application to these types of facilities. For the Commission to reverse itself on this key issue would create a troubling precedent that will undermine the stability of the GHG emission reduction program at the start of the Commission's implementation of that program.

SCE argues that application of the EPS harms SCE (distinct from ratepayers). However, the Co-Tenancy Agreement specifically addresses how to handle situations in which Participants fail to meet their investment obligations. The Agreement specifies a reassignment of rights and obligations among the Participants so as to minimize the potential for disputes and mitigate the potential for contractual failure. Furthermore, the only harm that SCE has identified

is the liability for the reallocated costs of operation (*e.g.*, O&M, fuel, etc.) plus the cost of replacement generation as provided in the Co-Tenancy Agreement. SCE, however, is not proposing that SCE shareholders bear these costs; rather, the harm, to the extent that it occurs, falls to ratepayers, not SCE.

SCE argues that application of the EPS harms its customers. However, SCE's analysis fails to consider the significant benefits to ratepayers from avoiding the need to purchase GHG allocations to offset the GHG emissions of the coal-fired Four Corners units. Once these benefits are considered, the conclusion is unavoidable that customers are neutral or significantly better off by avoiding the investment in the Four Corners capital program.

For all these reasons, IEP respectfully urges the Commission to deny SCE's Petition and to make none of the modifications SCE requests.

Respectfully submitted this 28th day of February, 2008 at San Francisco, California.

GOODIN, MACBRIDE, SQUERI,  
DAY & LAMPREY, LLP  
Brian T. Cragg  
505 Sansome Street, Suite 900  
San Francisco, California 94111  
Telephone: (415) 392-7900  
Facsimile: (415) 398-4321

Independent Energy Producers Association  
Steven Kelly, Policy Director  
1215 K Street, Suite 900  
Sacramento, California 95814  
Tel: (916) 448-9499  
Fax: (916) 448-0182  
Email: [steven@iepa.com](mailto:steven@iepa.com)

By /s/ Brian T. Cragg

Brian T. Cragg

By /s/ Steven Kelly

Steven Kelly

Attorneys for the Independent Energy Producers  
Association

**ATTACHMENT A**  
Calculation of Four Corners Allowance Costs

Item		Unit 4	Unit 5
(1)	Megawatts <sup>17</sup>	745	745
(2)	SCE Share <sup>18</sup>	48%	48%
(3)	SCE MWs	357.6	357.6
(4)	Capacity Factor <sup>19</sup>	75%	75%
(5)	Annual Energy (GWH)	2349	2349
(6)	Heat Rate (btu/kWh) <sup>20</sup>	9877	9908
(7)	Fuel per Year (mmbtu) <sup>21</sup>	23,205,340	23,278,172
(8)	Coal CO <sub>2</sub> (lbs./mmbtu) <sup>22</sup>	205	205
(9)	CO <sub>2</sub> Emissions (lbs/year) <sup>23</sup>	4,757,094,672	4,772,025,312
(10)	CO <sub>2</sub> Emissions (tonnes/year) <sup>24</sup>	2,157,804	2,164,576

Annual Energy for Units 4 and 5 (GWH): 4,699

Annual CO<sub>2</sub> Emissions for Units 4 and 5 (tonnes): 4,322,380

CO <sub>2</sub> Allowance Prices for 2012 (€/tonne) <sup>25</sup> :	€24.45
\$/€ (as of 2/21/2008):	1.47
CO <sub>2</sub> Allowance Prices for 2012 (\$/tonne):	\$35.94

Assuming CO<sub>2</sub> allowance cost escalation of 4% per year, allowance cost for continued operation of Edison's share of Four Corners is shown below.

Four Corners Allowance Cost		
Year	\$/Year	\$/MWH
2012	\$155,352,838	\$33.06
2013	\$161,566,951	\$34.38
2014	\$168,029,629	\$35.76
2015	\$174,750,814	\$37.19
2016	\$181,740,847	\$38.68
<b>Total</b>	<b>\$841,441,079</b>	

<sup>17</sup> <http://www.srpnet.com/about/stations/fourcorners.aspx>

<sup>18</sup> SCE Petition for Modification of D.07-01-039, page 2.

<sup>19</sup> SCE Petition for Modification of D.07-01-039, page 9.

<sup>20</sup> EPA NEEDS Database being used by CARB for AB32 analysis

<http://www.epa.gov/airmarkets/progsregs/epa-ipm/#newbc>

<sup>21</sup> (5) x (6)

<sup>22</sup> US EPA Emission Factors, <http://www.epa.gov/cpd/pdf/brochure.pdf>

<sup>23</sup> (7) x (8)

<sup>24</sup> (9) ÷ 2204.6

<sup>25</sup> European Climate Exchange for trade day February 21, 2008 - [http://www.ecxexchange.com/default\\_flash.asp](http://www.ecxexchange.com/default_flash.asp)

**CERTIFICATE OF SERVICE**

I, Melinda LaJaunie, certify that I have on this 28<sup>th</sup> day of February 2008 caused a copy of the foregoing

**RESPONSE OF THE INDEPENDENT ENERGY PRODUCERS  
ASSOCIATION TO THE PETITION OF SOUTHERN CALIFORNIA  
EDISON COMPANY FOR MODIFICATION OF DECISION 07-01-039**

to be served on all known parties to R.06-04-009 listed on the most recently updated service list available on the California Public Utilities Commission website, via email to those listed with email and via U.S. mail to those without email service. I also caused courtesy copies to be hand-delivered as follows:

Commissioner President Michael R. Peevey  
California Public Utilities Commission  
State Building, Room 5218  
505 Van Ness Avenue  
San Francisco, CA 94102

ALJ Charlotte TerKeurst  
California Public Utilities Commission  
State Building, Room 5117  
505 Van Ness Avenue  
San Francisco, CA 94102

ALJ Jonathan Lakritz  
California Public Utilities Commission  
State Building, Room 5020  
505 Van Ness Avenue  
San Francisco, CA 94102

I declare under penalty of perjury that the foregoing is true and correct.  
Executed this 28<sup>th</sup> day of February 2008 at San Francisco, California.

/s/ Melinda LaJaunie  
Melinda LaJaunie

Service List – R.06-04-009  
(Updated February 22, 2008)

ANDREW BROWN  
abb@eslawfirm.com

ASHLEE M. BONDS  
abonds@thelen.com

AUDREY CHANG  
achang@nrdc.org

ADAM BRIONES  
adamb@greenlining.org

Anne Gillette  
aeg@cpuc.ca.gov

Andrew Campbell  
agc@cpuc.ca.gov

ANN G. GRIMALDI  
agrimaldi@mckennalong.com

ANNE HENDRICKSON  
ahendrickson@commerceenergy.com

AIMEE BARNES  
aimee.barnes@ecosecurities.com

ADAM J. KATZ  
ajkatz@mwe.com

AKBAR JAZAYEIRI  
akbar.jazayeri@sce.com

ALEXIA C. KELLY  
akelly@climatetrust.org

ALAN COMNES  
alan.comnes@nrgenergy.com

ALDYN HOEKSTRA  
aldyn.hoekstra@paceglobal.com

ALEX KANG  
alex.kang@itron.com

ANDREW L. HARRIS  
alho@pge.com

AMBER MAHONE  
amber@ethree.com

ANDREW BRADFORD  
andrew.bradford@constellation.com

ANDREW MCALLISTER  
andrew.mcallister@energycenter.org

ANDREW J. VAN HORN  
andy.vanhorn@vhcenergy.com

ANITA HART  
anita.hart@swgas.com

ANNABELLE MALINS  
annabelle.malins@fco.gov.uk

ALVIN PAK  
apak@sempraglobal.com

ARNO HARRIS  
arno@recurrentenergy.com

ALLEN K. TRIAL  
atrial@sempra.com

ANN L. TROWBRIDGE  
atrowbridge@daycartermurphy.com

AUDRA HARTMANN  
Audra.Hartmann@Dynegy.com

ANDREA WELLER  
aweller@sel.com

Amy C. Yip-Kikugawa  
ayk@cpuc.ca.gov

ELIZABETH BAKER  
bbaker@summitblue.com

Bishu Chatterjee  
bbc@cpuc.ca.gov

BUD BEEBE  
bbeebe@smud.org

B. B. BLEVINS  
bblevins@energy.state.ca.us

BRIAN T. CRAGG  
bcragg@goodinmacbride.com

BALDASSARO DI CAPO  
bdicapo@caiso.com

RYAN BERNARDO  
bernardo@braunlegal.com

BETH VAUGHAN  
beth@beth411.com

BETTY SETO  
Betty.Seto@kema.com

WILLIAM H. CHEN  
bill.chen@constellation.com

BILL SCHRAND  
bill.schrand@swgas.com

BRUNO JEIDER  
bjeider@ci.burbank.ca.us

BARRY LOVELL  
bjl@bry.com

BRIAN M. JONES  
bjones@mjbradley.com

BRIAN K. CHERRY  
bkc7@pge.com

Beth Moore  
blm@cpuc.ca.gov

BARRY F. MCCARTHY  
bmcc@mccarthyaw.com

BRIAN MCQUOWN  
bmcquown@reliant.com

BOB LUCAS  
Bob.lucas@calobby.com

BRIAN POTTS  
bpotts@foley.com

BALWANT S. PUREWAL  
bpurewal@water.ca.gov

BARRY RABE  
brabe@umich.edu

BARBARA R. BARKOVICH  
brbarkovich@earthlink.net

BIANCA BOWMAN  
brbc@pge.com

BRENDA LEMAY  
brenda.lemay@horizonwind.com

DALLAS BURTRAW  
burtraw@rff.org

JOSHUA BUSHINSKY  
bushinskyj@pewclimate.org

BARRY R. WALLERSTEIN  
bwallerstein@aqmd.gov

BRAD WETSTONE  
bwetstone@hotmail.com

CHRIS MARNAY  
C\_Marnay@lbl.gov

CINDY ADAMS  
cadams@covantaenergy.com

CATHIE ALLEN  
californiadockets@pacificcorp.com

CARLA PETERMAN  
carla.peterman@gmail.com

IAN CARTER  
carter@ieta.org

CASE ADMINISTRATION  
case.admin@sce.com

CATHY A. KARLSTAD  
cathy.karlstad@sce.com

CARMEN E. BASKETTE  
cbaskette@enernoc.com

CLARE BREIDENICH  
cbreidenich@yahoo.com

CLIFF CHEN  
cchen@ucsusa.org

CALIFORNIA ENERGY MARKETS  
cem@newsdata.com

Cathleen A. Fogel cf1@cpuc.ca.gov	DAN SILVERIA dansvec@hdo.net	DARRELL SOYARS dsoyars@sppc.com
Charlotte TerKeurst cft@cpuc.ca.gov	DAVID L. MODISETTE dave@ppallc.com	DEAN R. TIBBS dtibbs@aes4u.com
CHARLIE BLAIR charlie.blair@delta-ee.com	DAVID ZONANA david.zonana@doj.ca.gov	DEVRA WANG dwang@nrdc.org
CHRISTOPHER A. HILEN chilen@sppc.com	DAVID BRANCHCOMB david@branchcomb.com	DON WOOD dwood8@cox.net
CHRISTOPHER J. WARNER cjw5@pge.com	DAVID NEMTZOW david@nemtzw.com	DONALD SCHOENBECK dws@r-c-s-inc.com
CYNTHIA MITCHELL ckmitchell1@sbcglobal.net	DAVID REYNOLDS davidreynolds@ncpa.com	ED CHIANG echiang@elementmarkets.com
CATHERINE M. KRUPKA ckrupka@mwe.com	DOUGLAS BROOKS dbrooks@nevp.com	Ed Moldavsky edm@cpuc.ca.gov
CLARENCE BINNINGER clarence.binninger@doj.ca.gov	DEBORAH SLON deborah.slon@doj.ca.gov	EDWARD W. O'NEILL edwardoneill@dwt.com
CLARK BERNIER clark.bernier@rlw.com	DENNIS M.P. EHLING dehling@kling.com	ELIZABETH WESTBY egw@a-klaw.com
CLYDE MURLEY clyde.murley@comcast.net	DEREK MARKOLF derek@climateregistry.org	ELIZABETH W. HADLEY ehadley@reupower.com
CAROLYN M. KEHREIN cmkehrein@ems-ca.com	DAN HECHT dhecht@sempratrading.com	E.J. WRIGHT ej_wright@oxy.com
COLIN PETHERAM colin.petheram@att.com	DAVID L. HUARD dhuard@manatt.com	EVELYN KAHL ek@a-klaw.com
Eugene Cadenasso cpe@cpuc.ca.gov	DIANE I. FELLMAN Diane_Fellman@fpl.com	ELSTON K. GRUBAUGH ekgrubaugh@iid.com
CARL PECHMAN cpechman@powereconomics.com	WILLIAM F. DIETRICH dietrichlaw2@earthlink.net	Elizabeth Stoltzfus eks@cpuc.ca.gov
CATHY S. WOOLLUMS cswoollums@midamerican.com	Diana L. Lee dil@cpuc.ca.gov	ED LUCHA ELL5@pge.com
CURT BARRY curt.barry@iwpnews.com	DOUGLAS K. KERNER dkk@eslawfirm.com	EDWARD VINE elvine@lbl.gov
CURTIS L. KEBLER curtis.kebler@gs.com	Don Schultz dks@cpuc.ca.gov	MAHLON ALDRIDGE emahlon@ecoact.org
COURTNEY WEDDINGTON cweddington@commerceenergy.com	DOUGLAS MACMULLEN dmacmull@water.ca.gov	ELENA MELLO emello@sppc.com
CYNTHIA A. FONNER Cynthia.A.Fonner@constellation.com	DARYL METZ dmetz@energy.state.ca.us	EDWARD G POOLE epoole@adplaw.com
CYNTHIA SCHULTZ cynthia.schultz@pacificorp.com	DESPINA NIEHAUS dniehaus@semprautilities.com	CALIFORNIA ISO e-recipient@caiso.com
DANIEL A. KING daking@sempra.com	DANIEL W. DOUGLASS douglass@energyattorney.com	EDWARD J. TIEDEMANN etiedemann@kmtg.com
DAN ADLER Dan.adler@calcef.org	DANIELLE MATTHEWS SEPERAS dseperas@calpine.com	ELLEN WOLFE ewolfe@resero.com
DAN SKOPEC danskopec@gmail.com	Donald R. Smith dsh@cpuc.ca.gov	ELIZABETH ZELLJADT ez@pointcarbon.com

FARROKH ALBUYEH farrokh.albuyeh@oati.net	J. ANDREW HOERNER hoerner@redefiningprogress.org	JESUS ARREDONDO jesus.arredondo@nrgenergy.com
FIJI GEORGE fiji.george@el Paso.com	CAROL J. HURLOCK hurlock@water.ca.gov	Julie A. Fitch jf2@cpuc.ca.gov
KAREN TERRANOVA filings@a-klaw.com	HUGH YAO HYao@SempraUtilities.com	JULIE GILL jgill@caiso.com
F. Jackson Stoddard fjs@cpuc.ca.gov	Harvey Y. Morris hym@cpuc.ca.gov	JOSEPH GRECO jgreco@terra-genpower.com
FRANK STERN fstern@summitblue.com	SUE KATELEY info@calseia.org	JEFFREY L. HAHN jhahn@covantaenergy.com
WES MONIER fwmonier@tid.org	JAIRAM GOPAL Jairam.gopal@sce.com	JAMES A. HOLTkamp jholtkamp@hollandhart.com
GARY BARCH gbarch@knowledgeinenergy.com	JAMES W. KEATING james.keating@bp.com	JAMES ROSS jimross@r-c-s-inc.com
GREG BLUE gblue@enxco.com	JANILL RICHARDS janill.richards@doj.ca.gov	JJ PRUCNAL jj.prucnal@swgas.com
GARY COLLORD gcollord@arb.ca.gov	JEANNE B. ARMSTRONG jarmstrong@goodinmacbride.com	JOHN JENSEN jjensen@kirkwood.com
GEORGE HOPLEY george.hopley@barcap.com	JASON A. DUBCHAK jason.dubchak@niskags.com	Jason R. Salmi Klotz jk1@cpuc.ca.gov
GARY HINNERS ghinners@reliant.com	Jamie Fordyce jbf@cpuc.ca.gov	JOSEPH M. KARP jkarp@winston.com
GLORIA BRITTON GloriaB@anzaelectric.org	JOHN B. WELDON, JR. jbw@slwplc.com	JOSEPH R. KLOBERDANZ jkloberdanz@semprautilities.com
GREGGORY L. WHEATLAND glw@eslawfirm.com	JENNIFER CHAMBERLIN jchamberlin@strategicenergy.com	JOHN LAUN jlaun@apogee.net
GREGG MORRIS gmorris@emf.net	Judith Ikle jci@cpuc.ca.gov	JOHN W. LESLIE jleslie@luce.com
GORDON PICKERING gpickering@navigantconsulting.com	JONATHAN FORRESTER JDF1@PGE.COM	JANE E. LUCKHARDT jluckhardt@downeybrand.com
GREGORY KOISER gregory.koiser@constellation.com	JEFFERY D. HARRIS jdh@eslawfirm.com	Jaclyn Marks jm3@cpuc.ca.gov
GRANT ROSENBLUM, ESQ. grosenblum@caiso.com	JEFFREY DOLL jdoll@arb.ca.gov	Jacqueline Greig jnm@cpuc.ca.gov
GLORIA D. SMITH gsmith@adamsbroadwell.com	JEANNE M. SOLE jeanne.sole@sfgov.org	JODY S. LONDON jody_london_consulting@earthlink.net
GRACE LIVINGSTON-NUNLEY GXL2@pge.com	JEFFREY P. GRAY jeffgray@dwt.com	JOSEPH PAUL Joe.paul@dynegy.com
HARVEY EDER harveyederpspc.org@hotmail.com	JEN MCGRAW jen@cnt.org	JOHN P. HUGHES john.hughes@sce.com
HAYLEY GOODSON hayley@turn.org	JENINE SCHENK jenine.schenk@apses.com	JOHN R. REDDING johnredding@earthlink.net
HOLLY B. CRONIN hcronin@water.ca.gov	JENNIFER PORTER jennifer.porter@energycenter.org	Jonathan Lakritz jol@cpuc.ca.gov
HOWARD V. GOLUB hgolub@nixonpeabody.com	GERALD L. LAHR JerryL@abag.ca.gov	JOSEPH HENRI josephhenri@hotmail.com

JOY A. WARREN joyw@mid.org	KENNY SWAIN kenneth.swain@navigantconsulting.com	DONALD C. LIDDELL liddell@energyattorney.com
JUDITH B. SANDERS jsanders@caiso.com	KERRY HATTEVIK kerry.hattevik@mirant.com	LISA SCHWARTZ lisa.c.schwartz@state.or.us
JANINE L. SCANCARELLI jscancarelli@flk.com	KEVIN BOUDREAUX kevin.boudreaux@calpine.com	LISA WEINZIMER lisa_weinzimer@platts.com
JAMES D. SQUERI jsqueri@gmssr.com	KEVIN FOX kfox@wsgr.com	LAD LORENZ llorenz@semprautilities.com
George S. Tagnipes jst@cpuc.ca.gov	KASSANDRA GOUGH kgough@calpine.com	LYNELLE LUND llund@commerceenergy.com
Joel T. Perlstein jtp@cpuc.ca.gov	KRISTIN GRENFELL kgrenfell@nrdc.org	LYNN HAUG lmh@eslawfirm.com
JULIE L. MARTIN julie.martin@bp.com	KAREN GRIFFIN kgriffin@energy.state.ca.us	LORRAINE PASKETT Lorraine.Paskett@ladwp.com
JOSEPH F. WIEDMAN jwiedman@goodinmacbride.com	KENNETH C. JOHNSON kjinnovation@earthlink.net	LAURIE PARK lpark@navigantconsulting.com
JAMES W. TARNAGHAN jwmctarnaghan@duanemorris.com	KEVIN J. SIMONSEN kjsimonsen@ems-ca.com	LEONARD DEVANNA lrdevanna-rf@cleanenergysystems.com
JAMES W. MCTARNAGHAN jwmctarnaghan@duanemorris.com	KHURSHID KHOJA kkhoja@thelenreid.com	Lainie Motamedi lm@cpuc.ca.gov
JASMIN ANSAR jxa2@pge.com	GREGORY KLATT klatt@energyattorney.com	STEVE RAHON lschavrien@semprautilities.com
KAREN LINDH karen@klindh.com	KAREN NORENE MILLS kmills@cfbf.com	LAURIE TEN HOPE ltenhope@energy.state.ca.us
KARLA DAILEY karla.dailey@cityofpaloalto.org	KIM KIENER kмкиener@fox.net	Lana Tran lta@cpuc.ca.gov
KATHRYN WIG Kathryn.Wig@nrgenergy.com	AVIS KOWALEWSKI kowalewskia@calpine.com	MARCEL HAWIGER marcel@turn.org
KAREN BOWEN kbowen@winston.com	Kristin Ralff Douglas krd@cpuc.ca.gov	MARCIE MILNER marcie.milner@shell.com
KENNETH A. COLBURN kcolburn@symbioticstrategies.com	KYLE L. DAVIS kyle.l.davis@pacificorp.com	MARY LYNCH mary.lynych@constellation.com
KIRBY DUSEL kdusel@navigantconsulting.com	KYLE SILON kyle.silon@ecosecurities.com	BRUCE MCLAUGHLIN mclaughlin@braunlegal.com
KEVIN WOODRUFF kdw@woodruff-expert-services.com	KYLE D. BOUDREAUX kyle_boudreaux@fpl.com	MICHAEL B. DAY mday@goodinmacbride.com
KEITH R. MCCREA keith.mccrea@sablaw.com	LARS KVALE lars@resource-solutions.org	MARC D. JOSEPH mdjoseph@adamsbroadwell.com
KELLIE SMITH kellie.smith@sen.ca.gov	LAURA I. GENAO Laura.Genao@sce.com	MICHEL FLORIO mflorio@turn.org
KELLY BARR kelly.barr@srpnet.com	LISA A. COTTLE lcottle@winston.com	MICHELLE GARCIA mgarcia@arb.ca.gov
BILL LOCKYER ken.alex@doj.ca.gov	LISA DECARLO ldecarlo@energy.state.ca.us	MELANIE GILLETTE mgillette@enemoc.com
KEN ALEX ken.alex@doj.ca.gov	LEILANI JOHNSON KOWAL leilani.johnson@ladwp.com	MICHAEL A. HYAMS mhyams@sfwater.org

MIKE LAMOND Mike@alpinenaturalgas.com	ORLANDO B. FOOTE, III ofoote@hkcf-law.com	RAY WELCH ray.welch@navigantconsulting.com
Matthew Deal mjd@cpuc.ca.gov	PANAMA BARTHOLOMY pbarthol@energy.state.ca.us	RICHARD HELGESON rhelgeson@scppa.org
MARTIN A. MATTES mmattes@nossaman.com	PAM BURMICH pburmich@arb.ca.gov	RAYMOND HUNG RHHJ@pge.com
MICHAEL MAZUR mmazur@3phasesRenewables.com	PIERRE H. DUVAIR pduvair@energy.state.ca.us	RYAN WISER rhwiser@lbl.gov
MONA TIERNEY-LLOYD mona@landsiteinc.net	JAN PEPPER pepper@cleanpowermarkets.com	RICHARD SMITH richards@mid.org
MONICA A. SCHWEBS, ESQ. monica.schwebs@bingham.com	PETER W. HANSCHEN phansch@mofo.com	RICK C. NOGER rick_noger@praxair.com
MICHAEL P. ALCANTAR mpa@a-klaw.com	PHIL CARVER Philip.H.Carver@state.or.us	RITA NORTON rita@ritanortonconsulting.com
MARC PRYOR mpryor@energy.state.ca.us	PHILLIP J. MULLER philm@scdenergy.com	RANDALL W. KEEN rkeen@manatt.com
MRW & ASSOCIATES, INC. mrw@mrwassoc.com	PETER JAZAYERI pjazayeri@stroock.com	RONALD MOORE rkmoore@gswater.com
MICHAEL SCHEIBLE mscheibl@arb.ca.gov	PHILIP D. PETTINGILL ppettingill@caiso.com	RICHARD MCCANN, PH.D rmccann@umich.edu
MICHAEL WAUGH mwaugh@arb.ca.gov	Paul S. Phillips psp@cpuc.ca.gov	ROSS A. MILLER rmiller@energy.state.ca.us
NADAV ENBAR nenbar@energy-insights.com	PAUL DELANEY pssed@adelphia.net	Rahmon Momoh rmm@cpuc.ca.gov
Nancy Ryan ner@cpuc.ca.gov	PATRICK STONER pstoner@lgc.org	RICHARD J. MORILLO rmorillo@ci.burbank.ca.us
NORA SHERIFF nes@a-klaw.com	PATRICIA THOMPSON pthompson@summitblue.com	ROBERT L. PETTINATO robert.pettinato@ladwp.com
NICHOLAS LENSSEN nlenssen@energy-insights.com	PETER V. ALLEN pvallen@thelen.com	ROBERT K. ROZANSKI Robert.Rozanski@ladwp.com
NORMAN J. FURUTA norman.furuta@navy.mil	Pamela Wellner pw1@cpuc.ca.gov	ROGER C. MONTGOMERY roger.montgomery@swgas.com
JESSICA NELSON notice@psrec.coop	Pearlie Sabino pzs@cpuc.ca.gov	ROGER VAN HOY rogerv@mid.org
NORMAN A. PEDERSEN npedersen@hanmor.com	RACHEL MCMAHON rachel@ceert.org	RONALD F. DEATON ron.deaton@ladwp.com
NINA SUETAKE nsuetake@turn.org	RALPH E. DENNIS ralph.dennis@constellation.com	RASHA PRINCE rprince@semprautilities.com
NANCY TRONAAS ntronaas@energy.state.ca.us	Richard A. Myers ram@cpuc.ca.gov	ROBERT J. REINHARD reinhard@mofo.com
S. NANCY WHANG nwhang@manatt.com	RANDY S. HOWARD randy.howard@ladwp.com	ROBERT R. TAYLOR rtaylor@srpnet.com
OBADIAH BARTHOLOMY obartho@smud.org	RANDY SABLE randy.sable@swgas.com	DONALD BROOKHYSER rsa@a-klaw.com
OLOF BYSTROM obystrom@cera.com	RICHARD COWART rapcowart@aol.com	REED V. SCHMIDT rschmidt@bartlewells.com

ROBIN SMUTNY-JONES rsmutny-jones@caiso.com	Scott Murtishaw sgm@cpuc.ca.gov	TRENT A. CARLSON tcarlson@reliant.com
REID A. WINTHROP rwinthrop@pilotpowergroup.com	STEVEN G. LINS slins@ci.glendale.ca.us	Theresa Cho tcx@cpuc.ca.gov
RYAN FLYNN ryan.flynn@pacificcorp.com	SEEMA SRINIVASAN sls@a-klaw.com	THOMAS DARTON tdarton@pilotpowergroup.com
STEPHANIE LA SHAWN S1L7@pge.com	STEVEN S. MICHEL smichel@westernresources.org	TREVOR DILLARD tdillard@sppc.com
SAEED FARROKHPAY saeed.farrokhpay@ferc.gov	SAMARA MINDEL smindel@knowledgeinenergy.com	TOM HAMILTON THAMILTON5@CHARTER.NET
SAM SADLER samuel.r.sadler@state.or.us	Sara M. Kamins smk@cpuc.ca.gov	TAMLYN M. HUNT thunt@cecmail.org
SANDRA CAROLINA sandra.carolina@swgas.com	SID NEWSOM snewsom@semprautilities.com	TIFFANY RAU tiffany.rau@bp.com
SANDRA ELY Sandra.ely@state.nm.us	SHERIDAN J. PAUKER spauker@wsgr.com	TIM HEMIG tim.hemig@nrgenergy.com
ANNIE STANGE sas@a-klaw.com	SEBASTIEN CSAPO sscb@pge.com	TIMOTHY R. ODIL todil@mckennalong.com
SAKIS ASTERIADIS sasteriadis@apx.com	SARA STECK MYERS ssmyers@att.net	THOMAS ELGIE Tom.Elgie@powerex.com
SEAN P. BEATTY sbeatty@cwclaw.com	STEPHEN G. KOERNER, ESQ. steve.koerner@elpaso.com	R. THOMAS BEACH tomb@crossborderenergy.com
C. SUSIE BERLIN sberlin@mccarthyllaw.com	STEVEN SCHILLER steve@schiller.com	THOMAS S. KIMBALL tomk@mid.org
SARAH BESERRA sbeserra@sbcglobal.net	STEVE KROMER stevek@kromer.com	THOMAS DILL trdill@westernhubs.com
SHERYL CARTER scarter@nrdc.org	STEVEN HUZHMAN steven.huzhman@morganstanley.com	THEODORE ROBERTS troberts@sempra.com
STEVEN M. COHN scohn@smud.org	STEVEN S. SCHLEIMER steven.schleimer@barclayscapital.com	UDI HELMAN UHelman@caiso.com
SCOTT TOMASHEFSKY scott.tomashefsky@ncpa.com	STEVEN KELLY steven@iepa.com	VERONIQUE BUGNION vb@pointcarbon.com
SCOTT J. ANDERS scottanders@sandiego.edu	STEVEN A. LIPMAN steven@lipmanconsulting.com	VITALY LEE vitaly.lee@aes.com
Steve Roscow scr@cpuc.ca.gov	STEVEN MOSS steven@moss.net	VALERIE J. WINN vjw3@pge.com
SETH HILTON sdhilton@stoel.com	Sean A. Simon svn@cpuc.ca.gov	VIDHYA PRABHAKARAN vprabhakaran@goodinmacbride.com
SHAUN HALVERSON SEHC@pge.com	SYMONE VONGDEUANE svongdeuane@semprasolutions.com	VIRGIL WELCH vwelch@environmentaldefense.org
SHAUN ELLIS sellis@fypower.org	SOUMYA SASTRY svs6@pge.com	WILLIAM H. BOOTH wbooth@booth-law.com
STEVE ENDO sendo@ci.pasadena.ca.us	Christine S. Tam tam@cpuc.ca.gov	RAYMOND J. CZAHAR, C.P.A. westgas@aol.com
SEPHRA A. NINOW sephra.ninow@energycenter.org	THERESA BURKE tburke@swater.org	WAYNE TOMLINSON william.tomlinson@elpaso.com

Wade McCartney  
wsm@cpuc.ca.gov

WEBSTER TASAT  
wtasat@arb.ca.gov

WILLIAM W. WESTERFIELD, 111  
www@eslawfirm.com

JUSTIN C. WYNNE  
wynne@braunlegal.com

YVONNE GROSS  
ygross@sempraglobal.com

JEANNE ZAIONTZ  
zaiontz@bp.com

DOWNEY BRAND  
DOWNEY BRAND  
Sacramento Municipal  
555 CAPITOL MALL, 10TH FLOOR  
SACRAMENTO, CA 95814-4686

MATTHEW MOST  
EDISON MISSION MARKETING &  
TRADING, INC.  
160 FEDERAL STREET  
BOSTON, MA 02110-1776

THOMAS MCCABE  
EDISON MISSION ENERGY  
18101 VON KARMAN AVE., SUITE  
1700  
IRVINE, CA 92612

MARY MCDONALD  
DIRECTOR OF STATE AFFAIRS  
CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR  
CAISO  
151 BLUE RAVINE ROAD  
FOLSOM, CA 95630

PUC/X97230.v1